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09/856,808	08/07/2001	Bernard Dalbe	RN98170	4736

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EXAMINER
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ROBERTSON, JEFFREY

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 06/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/856,808

Applicant(s)

DALBE ET AL.

Examiner

Jeffrey B. Robertson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-26 is/are rejected.
- 7) ☒ Claim(s) 14-26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:  |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities: on page 4, line 9, does "cyclanic" mean cyclic? On page 15, line 3, what does "[lacuna]" mean?

Appropriate correction is required.

### ***Claim Objections***

2. Claims 14-26 are objected to because of the following informalities: In claim 14, line 13, functionalization is spelled incorrectly. Claims 15-26 are objected to because they depend from claim 14. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 14-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cocco et al. (U.S. Patent No. 5,079,324) in view of Shiono et al. (U.S. Patent No. 5,525,660) and (Miyake et al. U.S. Patent No. 6,214,930).

For claim 14, Cocco teaches a silanol terminated polysiloxane corresponding to applicant's formula (I) in column 3, lines 44-68. Here, Cocco also teaches that this polysiloxane has a viscosity of between 25 to 1,000,000 mPa.s at 25° C, which fully encompasses applicant's claimed range, and is reacted with silane. In column 4, lines

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33-42, Cocco teaches that the silanol terminated polysiloxane may also be a mixture of polysiloxanes that may differ in each other in the nature of the groups bonded to the polysiloxane. Here, Cocco further discloses that the polysiloxanes may contain  $\text{RSiO}_{1.5}$  (T units) and  $\text{SiO}_2$  (Q units). In column 4, line 48 through column 5, line 24, Cocco teaches suitable silanes, where the most typically employed silanes all have at least 3 alkoxy groups. These silanes fall within formula (II) set forth by applicant when  $b=0$ .

For claim 21, in column 5, lines 25-61, Cocco teaches that the functionalization is carried out in a closed reactor using  $\text{LiOH}$  or  $\text{LiOH}\cdot\text{H}_2\text{O}$  as a catalyst. For claim 22, Cocco teaches in column 5, lines 44-49 that from 0.001 to 0.5 moles of  $\text{LiOH}$  are used per 1 mol of silanol, which encompasses the range set forth by applicant. In column 6, lines 3-31, Cocco teaches that one component storage stable compositions are prepared through the addition of inorganic fillers and condensation catalysts. In column 6, lines 26-31, Cocco teaches that the catalyst is a titanium catalyst. ✓

For claim 23, in column 7, lines 40-44, Cocco discloses that the filler is a finely divided silica that has a specific surface area generally higher than  $40 \text{ m}^2/\text{g}$ . In column 6, lines 1-9, Cocco teaches a devolatilization procedure at less than atmospheric pressure where Cocco teaches that pressure is between 133 to 13,332 Pa (1 atm=101325 Pa). Here, Cocco also teaches that the polysiloxanes are stable in storage in the absence of moisture and cure with exposure to moisture.

For claim 16, in column 3, lines 55-60, Cocco defines R (corresponding to applicant's  $\text{R}^1$ ) as including alkyl groups of 1-10 carbon atoms, which falls within

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applicant's definition of R<sup>1</sup>. For claim 17, in column 4, lines 2-6, Cocco specifically sets forth the methyl radical.

For claims 19 and 20, in column 5, line 21, Cocco prefers the use of CH<sub>3</sub>Si(OCH<sub>3</sub>)<sub>3</sub>, which is one of the compounds listed in claim 20, and falls within claim 19 because R<sup>2</sup> equals methyl.

For claim 15, in column 6, lines 10-31, Cocco teaches 0-250 parts of inorganic fillers, 0.001 to 1 parts of the titanium catalyst, and 0-20 parts by weight of an additive. These values are based on 100 parts by weight of what corresponds to applicant's components A, B, and C. However, taking this into account, the ranges still overlap those claimed in claim 15, because the incorporation of components B and C only represents an increase of at minimum 5% to the base component used by Cocco. In addition, in column 5, lines 38-49, Cocco teaches a catalytically effective amount of functionalization catalyst. Also, in column 5, lines 29-37, the molar ratios required by Cocco relative to the addition of the polyalkoxysilane to the silanol containing polyorganosiloxane(s) include the range claimed by applicant of 2-15 parts by weight.

For claim 26, in column 11, lines 45-52, Cocco teaches that the compositions are cured in a thin layer of 1-2 mm at 25° C in the presence of moisture.

Cocco fails to teach the specific identity of the titanium catalysts set forth by applicant in claims 14, 24, and 25. Cocco also fails to teach the specific hydroxyl content of the resin (B) as claimed in claim 14 and the specific amount of hydroxylated resin (B) in claim 15. Cocco also does not specifically teach a resin that does not have a Q unit as claimed in claim 18.

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✓ Shiono et al. teaches similar compositions to those set forth by Cocco, where a silane having three alkoxy groups is reacted with a silanol containing polysiloxane. Shiono also teaches the use of titanium condensation catalysts and specifically teaches tetraisopropyl titanate and tetrabutyl titanate in column 6, lines 61-62. These catalysts fall within applicant's formula (IV) where  $c=0$  set forth in claim 14, and are included in the specific catalysts set forth in claims 24 and 25. Note that the isopropyl and butyl groups fulfill the requirement that when  $c=0$ ,  $R^4$  has from 2 to 12 carbons. ✓

It is also noted that Shiono et al. teaches the addition of an inert diorganopolysiloxane corresponding to applicant's formula (III) for optional component (F) in column 3, lines 27-54. Shiono et al. discloses that this diorganopolysiloxane may be added to impart lubricity and abrasion resistance to the cured coating.

✓ For claim 14, in column 2, lines 40-65, Miyake teaches a linear hydroxy-terminated polysiloxane in Formula (1) that may be used in one-package RTV organopolysiloxane composition. In column 3, line 21 through column 4, line 44, Miyake discloses that a polysiloxane resin having at least two different units containing  $\text{RSiO}_{3/2}$  (T units) may be mixed with the organopolysiloxane of Formula (1) in the composition. In column 4, lines 6-7, Miyake teaches that the organopolysiloxanes are end-blocked with two or more Si-OH groups. This includes resins with a hydroxyl content of 0.1 to 10%. Regarding claim 18, none of the resins taught by Miyake contain a Q unit. } ✓

Regarding the Miyake reference, applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

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Shiono and Miyake both fail to teach the amount of the hydroxylated resin (B) claimed in claim 15. However the amount of this resin added to the composition is a result effective variable, since the amount added will affect the viscosity of the resulting composition, and the crosslinked structure of the final coating. The amount of this resin would have been varied as necessary by one of ordinary skill in the art depending on the desired properties of the final composition. A result effective variable is determined according to the desired properties of the resulting composition and would be obvious to one of ordinary skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It is noted that claims 14-26 are product by process claims. It is also noted that Cocco et al. teaches all of the steps of the process as outlined above, which results in the same or similar product claimed by applicant. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted).

"The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the examiner provides a rationale tending

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to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

Cocco et al., Shiono et al., and Miyake et al. are all analogous art because they are from the same field of endeavor, namely, the synthesis of polysiloxane containing RTV coating compositions.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the catalysts of Shiono et al. in the compositions of Cocco et al. The motivation would have been that Cocco et al. teaches the use of titanium catalysts but does not give any specific examples of such catalysts. One of ordinary skill in the art would have turned to Shiono et al. for that information. Also it would have been obvious to one of ordinary skill in the art to use the organopolysiloxane resins of Miyake et al. in the compositions of Cocco et al. The motivation would have been that Cocco et al. teaches that branched resin structures may be used in column 4, lines 42, but Cocco does not teach any specific resin structures. One of ordinary skill in the art would have turned to Miyake et al. for that information.

### ***Response to Arguments***

5. Applicant's arguments filed March 3, 2003 have been fully considered but they are not persuasive. First, applicant argues on page 7, lines 13-14 of the response that Cocco teaches that any catalyst can be used in column 2, lines 27-31. The examiner



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disagrees with this assertion. In column 2, lines 31-34, Cocco discloses that an object of the invention is the provision of an inexpensive catalyst and the examiner is unable to find any disclosure in Cocco that any catalyst may be used. Also, in column 5, lines 25-28, Cocco is specific in the lithium catalysts used. In addition, in column 6, lines 27-31, Cocco teaches that the condensation catalysts are different catalysts than the lithium hydroxide catalysts.

Next applicant argues in the paragraph bridging pages 7 and 8 of the response that the Shiono patent requires the use of an adhesion agent, where the present claims do not. Regarding this argument, the Shiono patent is cited for exemplifying particular titanium condensation catalysts used in the art for similar compositions in order to explain the teachings of Cocco in column 6, lines 27-61. In addition, claim 14 does not specify that adhesion agents may not be used as shown by the "comprising" transitional phrase. The examiner acknowledges that Shiono is mute on the use of a silicone hydroxylated resin and the use of different catalysts for functionalization and condensation. However, as stated above, Shiono is cited for the use of particular titanium catalysts for use as condensation catalysts, and Cocco is cited as the primary reference for the single component organopolysiloxane compositions and the use of two different catalysts. It is also noted that in column 11, lines 61-64, Cocco teaches that the elastomers produced exhibit excellent adhesion to various substrates. In column 8, lines 4-11, Cocco discloses that the adhesive agent is not necessarily present, as it is added in an amount of 0 to 20 parts.

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Applicant also argues on page 8, lines 9-16 of the response, that Miyake does not teach a reactive linear diorganopolysiloxane having hydroxyl groups at the chain ends or a hydroxylated resin. In addition, applicant argues that Miyake does not teach the use of two different particular catalysts. First, the examiner disagrees with applicant's assessment of the Miyake reference. Miyake clearly teaches a linear diorganopolysiloxane having hydroxyl groups at each chain end in column 2, lines 50-54 in formula (1). Second, in column 4, lines 4-44, Miyake teaches hydroxylated organopolysiloxane resins. Regarding applicant's argument with respect to the particular catalysts, the Miyake reference is relied on for the specific teachings of hydroxylated organopolysiloxane resins to exemplify the teachings of column 4, lines 34-43 of Cocco, where there are optional  $\text{RSiO}_{1.5}$  and/or  $\text{SiO}_2$  units present. Miyake is not relied upon for the teaching of two different catalysts.

Applicant next argues on page 8, lines 17-20 of the response that is impossible to achieve the claimed composition by the combination of the references. The examiner disagrees. The examiner has provided clear motivation why one of ordinary skill in the art would have considered the claimed composition obvious at the time of the invention. For these reasons, the rejection made under 35 U.S.C. § 103 is continued.

### **Conclusion**

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey B. Robertson whose telephone number is (703) 306-5929. The examiner can normally be reached on Mon-Fri 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Dawson can be reached on (703) 308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
Jeffrey B. Robertson  
Primary Examiner  
Art Unit 1712

JBR  
June 11, 2003